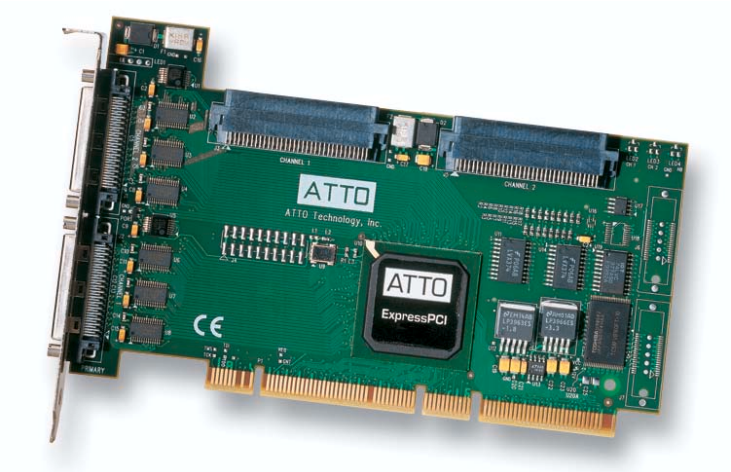
ATTO ExpressPCI UL4D

ATTO SCSI HBAs



Dual-channel Ultra320 SCSI Host Adapter with PCI-X Support

The UL4D dual-channel Ultra320 adapter is the latest addition to the ATTO ExpressPCI family of high-performance SCSI host adapters for data-intensive environments. This latest generation adapter boasts data-transfer rates up to 320 MB/sec. per channel and offers support for advanced PCI-X busses. It is an ideal fit for Enterprise servers and high-end workstations running high-volume, mission-critical applications such as messaging and databases. Only ATTO ExpressPCI host adapters feature the exclusive Advanced Data Streaming (ADS™) Technology that allows fast and efficient data movement with reduced CPU utilization.

TECHNICAL HIGHLIGHTS

- **Ultra320 SCSI**
- **Up to 320 MB/sec. per channel data-transfer rates**
- **Dual independent SCSI channels**
- **64-bit/133 MHz PCI-X with backward compatibility**
- **Exclusive ADS™ Technology**
- **Supports up to 30 SCSI bus IDs**
- **Up to 12 meter cable lengths**

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Hardware Specifications

SCSI Interface:
- 320 MB/sec. per channel data-transfer rates
- Two (2) external VHDCI and two (2) internal high-density connectors per channel
- Low Voltage Differential (LVD) signaling
- Support for tagged command queuing
- Backward compatible with Ultra 160, Ultra2, Ultra/WIDE, Fast/WIDE and Narrow SCSI devices

Advanced SCSI:
- Double transition clocking
- Domain validation
- Cyclical Redundancy Checking (CRC)
- Packetization
- Quick Arbirtration Select (QAS)
- ASPI compliant (for PC users)
- Bootable from attached disks
- Support for disconnect/reconnect
- Support for multiple block sizes

Accelerated PCI Bus Management:
- PCI-X bus master rate of 1 GB/sec.
- PCI-X 1.0a compliant
- PCI 2.2 and PCI 99 compliant
- 64-bit/133 MHz PCI-X (backward compatible with standard PCI)

General Characteristics:
- Automatic termination
- Upper-byte termination for Narrow devices
- Flash ROM for easy field upgrades
- Plug and play compatible
- Includes ATTO ExpressPro-Tools™ and ATTO Configuration Tool formatting and utility software

Software Specifications

Driver Support:
- Windows Server 2003
- Windows XP
- Windows® 2000
- Mac® OS X
- Linux

Advanced Data Streaming (ADS™):
- Improved PCI system bandwidth use
- Optimized SCSI-3 algorithms
- Tagged command queuing
- Embedded RISC I/O processor

RAID kits available

Environmental and Physical Characteristics

Dimensions:
- Length 6.521"
- Height 4.450"

Operating Environment:
- Temperature: 0-45° C
- Humidity: 10-90% non-condensing
- Airflow: 100 LFM (min)

Reliability:
- MTBF = 150,000 hours
- MTTR < 15 Minutes

Power:
- 0.75 typical/2.0 max. Amps @ + 5.0 VDC
- 0.05 Amps @ + 12.0 VDC

PCI Signal Compatibility:
- 3.3 Volts/5 Volts universal

SCSI Host Adapter Selection Chart

SCSI Host Bus Adapters	Ultra320 SCSI		Ultra3 SCSI		Ultra/ WIDE
FEATURES	UL4D	UL4S	UL3D	UL3S	PSC
Max. Transfer Rate (MB/sec.)	640	320	320	160	40
Low Voltage Differential	•	•	•	•	
Single-Ended SCSI	•	•	•	•	•
Number of SCSI Channels	2	1	2	1	1
Number of SCSI IDs Supported	30	30	30	30	15
Large File Transfers	•	•	•	•	•
Cable Distances	12.5	12.5	12.5	12.5	up to 3m
Uncompressed Video	•	•	•	•	
32-bit PCI Compatible	•	•	•	•	•
64-bit PCI Compatible	•	•	•	•	
33 / 66 MHz PCI	•	•	•	•	•
133 MHz PCI-X	•	•			
Windows® 2000/XP/Server 2003	•	•	•	•	•
Linux	•	•	•	•	•
Mac® OS & Mac OS X Support	OS X	OS X	•	•	•

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ATTO SCSI HBAs

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